RICHNESS OF MIND AND MATTER

Science and Technology have been part of Northern life for thousands of years. Aboriginal peoples have perfected technologies to provide food and shelter for their families. These have been based on science and knowledge of the world around us, gained from observation. Modern science builds upon this knowledge to help northerners to meet their needs more easily. Modern medical techniques ensure a greater survival of our northern populace; current construction methods provide more durable shelters; transportation modes move people and goods more readily across our vast northern land and telecommunications effectively reduce the size of the Northwest Territories. There is still more to be learned and, once learned, applied. The Science Institute of the Northwest Territories (SINT) assists in coordinating groups and individuals involved at the leading edge of technological development and the users or beneficiaries of these technologies. SINT is helping the North ensure that there is a spirit of cooperation which uses our RICHNESS OF MIND AND MATTER.

Cooperation brings all of the past into the future.

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- Chevron Canada Resources
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- GNWT Department of Renewable Resources
- Government of Canada: Science Culture Canada Program
- Yellowknife Education District No. 1
- Dogrib Divisional Board of Education

We also thank:

- GNWT Department of Public Works; Energy Division
- Department of Fisheries and Oceans Canada
- Navigator Inn, Iqaluit
- Northwest Territorial Air
- and the myriad of others who contributed time, space and services to the Science Institute of the Northwest Territories.

REMARKS OF THE CHAIRMAN AND EXECUTIVE DIRECTOR

Cooperation and collaboration, whether in business, education or science and technology - these are passwords to success in the North. Although there are still many individuals who make their way through life "doing their own thing", corporations tend to depend more and more on each other to master their tasks. The Science Institute of the Northwest Territories recognizes the need, and desire, to work with others.

This report highlights the cooperative and collaborative endeavours of all of our programs: Science Advisory Services, Scientific Services, Information/Education, and Technology Development including the Industrial Research Assistance Program of the National Research Council which is administered for the NWT by the Institute.

Bob Longworth, Iqaluit Research Centre Manager, and Doug Heyland, Executive Director, collaborating in Iqaluit.

As Manager, Finance/Administration, Mrs. Yvonne Leonardis liases with all managers so that the Institute runs smoothly. Regular financial reporting to program managers and the Board of Directors has greatly assisted Institute operations. Funds derived from a number of contracts and agreements with a variety of agencies augmented Institute resources. A benefits plan for staff, paid from the Institute's budget, and efforts towards additional office accommodations for an expanded SINT headquarters were major administrative undertakings.

Ms. Gwen Cochrane joined the Science Institute staff as Clerk/Secretary in August of 1990. Ms. Elaine Riddell moved from Receptionist to Administrative Clerk/Secretary. Both the Executive Director and the Board were capably supported by Mrs. Jeanne Gagnon, Executive Secretary.

With the growth and expansion of the science and technology profile within the North, all of our staff are striving to work together. In a busy environment, this in itself is a challenge, albeit one which we are meeting.

THE SCIENCE INSTITUTE'S BOARD OF DIRECTORS

The Institute's Board of Directors met twice during the year. The meeting in Iqaluit in August included, in addition to a full agenda of business, an evening reception for a number of community representatives and associates. The second meeting was held in Yellowknife in February; an in-depth discussion of the mandate and future course of the Institute was considered during a day-long workshop.

Mr. John H. Parker continued as Chairman of

the Board. Dr. Kaye MacInnes, an environmental scientist with Indian and Northern Affairs Canada, Ms. Joanne Barnaby, Executive Director of the Dene Cultural Institute, Mr. Bob Hanson, an Iqaluit businessman and Chairman of the Board of Arctic College, Ms. Sally Kusugak, a Keewatin resident with an interest in science and youth, Mr. George Hobson, an active scientist and volunteer, and Mr. John Jamieson, an innovative northern educator, were our Board Members.

Mr. Bob Hanson completed his term of office as Member and Vice-Chairman of the Board on March 31, 1991. During his term in office, Mr. Hanson brought a businessman's point of view to the undertakings of the Institute. We are grateful for the time which he devoted to the Board and wish him every success.

Ms. Sally Kusugak, Rankin Inlet, also completed her term on the Board. Ms. Kusugak, active within a number of community organizations including the Inuit Silattuqsarvingat and the Inuit Cultural Institute, was a helpful contributor to discussions and we wish her good luck in her endeavours.

Mr. George Hobson, Manotick, Ontario, was appointed to the Board on October 2 and will serve until March 31, 1993. Mr. Hobson, a geophysicist, recently retired after a distinguished career with the Federal Public Service. Paramount among his many accomplishments was the 17 years (1972-1989) during which he was Director of the Polar Continental Shelf Project. It was a pleasure to welcome Mr. Hobson to the Board, where he will be able to bring his years of science and northern experience to the Institute's programs.

Mr. John Jamieson was appointed to the Board on October 17 and will serve until March 31, 1993. Mr. Jamieson is a teacher with many years of experience, including posts in Sanikiluaq, Igloolik and Iqaluit. He currently teaches in Wrigley. Mr. Jamieson has impressive credentials, including the Marshall McLuhan Award presented in recognition of his development of cultural enhancement projects in Sanikiluaq and Iqaluit. Mr. Jamieson has special interests in traditional knowledge and the relationship between traditional and modern scientific methods. His contributions to the Institute in this and other areas will be significant.

Committee Participation

The Executive Director participates in a number of territorial, national and international committees. As Science Advisor to the Government of the NWT, he accompanies the Territorial Minister responsible for scientific matters to meetings of the Council of Science and Technology Ministers, and collaborates with colleagues across Canada on related committees. As part of the task, Mr. Heyland continues to participate in preparing the National Action Plan for Science and Technology. The purpose of the Plan is to work towards integrating all sectors of the economy to advance Canada's capabilities in science and technology. Ministers are expected to approve the Plan in June of 1991.

Late in the year the Honourable Bernard Valcourt, Minister of Fisheries and Oceans, invited the Science Institute to assume chairmanship of an *ad hoc* committee to investigate the status of the beluga in southeast Baffin. The invitation came in response to a request by the Honourable Dennis Patterson, Member of the Territorial Legislature for Iqaluit and Government Leader, to Mr. Valcourt because of a conflict between beluga hunters in southeast Baffin and the Department of Fisheries and Oceans (DFO). The dispute arose after DFO imposed a quota of five beluga on each of the communities of Lake Harbour, Iqaluit and Pangnirtung

in June 1990. This was the first time that a quota on beluga had been introduced in the region. DFO claimed that, based on population estimates, the beluga stocks in southeast Baffin were being over-harvested and that unless the harvest was drastically reduced the stocks might be wiped out. Local hunters disagreed with the need for such a control. The issue erupted into controversy in the early summer, creating rifts in the relations between Inuit hunters and Fisheries and Oceans and threatening the social fabric of the region. The Science Institute, because of its interest and experience in science and traditional knowledge, was called upon to resolve the dispute.

Dr. Kaye MacInnes and Dr. Ross Mackay cooperating in the field to record permafrost data.

The Committee included representatives from Lake Harbour, Iqaluit, Pangnirtung, the Baffin Regional Council and Fisheries and Oceans. The Committee will report its findings and recommendations to the Minister of Fisheries and Oceans early in the new fiscal year. A genuine spirit of cooperation, and collaboration prevailed during the Committee meetings, an attitude vital to the success of the talks.

Mr. Heyland also sits on the Arctic Contaminants Technical and Policy Advisory Committee, the Northern Scientific Training Program Adjudication Committee, the International Arctic Science Committee, the GNWT Remote Sensing Committee, the Churchill Northern Studies Advisory Committee and the Advisory Committee for the Canadian Circumpolar Institute.

Committee work is time consuming. It does, however, emphasize the spirit of collaboration and cooperation so necessary in this day and age. Continued work of this nature will only benefit the Science Institute and thus science in the North.

The Science Institute of the Northwest Territories continues to build its profile. It is recognized more and more as an agency which can be depended upon to deliver. Our success derives from collaboration within the Institute, between the Institute and our clients and with those third parties who can provide the information and expertise we need. This is a winning formula which is working. We therefore intend to continue to build on this approach.

Sincerely,

John H. Parker

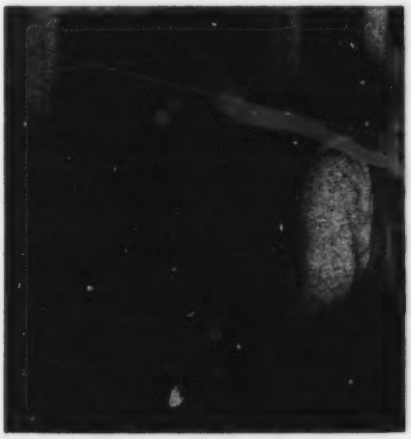
John H. Parker OC, P. Eng.
Chairman, Board of Directors

J. Douglas Heyland

J. Douglas Heyland
Executive Director

SCIENCE ADVISORY SERVICES

The Science Advisory Services Program is a focal point for all people interested in research in the Northwest Territories. Researchers from universities, interest groups, governments and the private sector are guided through the administrative requirements for conducting research in the Northwest Territories. Using this arm of the Science Institute, government departments, non-government agencies, communities and individuals keep abreast of what research is being done. The Science Institute works closely with these groups to ensure that all licence requirements are met. Individuals and groups also have the opportunity to identify future research needs in the North. Meeting these diverse needs requires cooperation and collaboration of the highest scale. Administering this program has been a major responsibility of Mrs. Anna Buss, Science Administrator.



"A network of researchers is being established." Bob Longworth, Iqaluit Research Centre Manager, discusses the community with visiting researchers.

SCIENTIFIC LICENCING

In 1990 the Science Institute, acting in its capacity as Science Advisor to the Government of the Northwest Territories, issued 221 licences for research conducted in the NWT. The number of reports submitted by licenced researchers has increased considerably over previous years. Managing this important database is a cooperative effort within the Science Institute. Information is shared with the Arctic Institute of North America.

In Canada, only Yukon and Northwest Territories require a licence to conduct scientific research. Over the years researchers have raised a myriad of questions related to the licencing process. To address these questions and confront the often time consuming and unfamiliar process of obtaining a scientific research licence in the NWT, a comprehensive document, *Handbook for Research in the Northwest Territories*, was prepared. This publication contains information on the Science Institute and its field support services for researchers, a consolidation of the Northwest Territories Scientists Act, reference to ethical principles for conducting research in the North and a section on the involvement of northern residents in research projects. There are also notes on the community consultation process including the names and addresses of other bodies issuing permits, and key community contacts. The handbook is available from the Science Administrator.

The licencing process, in place to deal with the changing needs of both researchers and residents of the NWT, is not static. In fact the dynamics are significant. Through dialogue with NWT and federal agencies it was determined that some overlaps and duplications in research licencing exist. To overcome this and facilitate information sharing, cooperation between all other permit-issuing agencies, aboriginal land claims committees and community organiza-

tions has been increased. Some of the organizations consulted regularly are the Inuvialuit Land Administration, the Dene Cultural Institute, the Inuit Cultural Institute, the Environmental Impact Screening Committee, Department of Fisheries and Oceans, Prince of Wales Northern Heritage Centre, Department of Renewable Resources, Department of Health, Polar Continental Shelf Project, and the Circumpolar and Scientific Affairs Directorate, Indian and Northern Affairs Canada.

Committee Membership

The Science Administrator sits on two committees which examine specialized areas of research within the Northwest Territories. In June 1989 the Health Research North of 60 Workshop was a tremendous cooperative effort to ensure that health research in the NWT meets the needs of the clients. Following this, a National Health Research Development Program (NHRDP) North of 60 Review Panel was formed to administer federal funds for health research in Yukon and the Northwest Territories. The Science Administrator is a non-voting member of this committee. The program is currently undergoing an evaluation to identify its strengths and weaknesses and its ability to meet unique northern needs.

A Working Group on Traditional Knowledge was established in October 1989 by the Government Leader to define traditional knowledge, examine its current and potential use, and identify obstacles and solutions which will increase its influence in northern society. The Science Administrator is the Science Institute's representative on this committee. The Institute recognizes the value of the traditional knowledge database, encourages all researchers to do the same and strives to integrate this knowledge with that gained from modern scientific techniques.

Through Science Advisory Services, the Science Institute assumes the challenging role of facilitator to enable a cohesive body of scientific knowledge to grow in the NWT. Knowledge gained using modern investigative tools and techniques can complement that known as traditional knowledge. Cooperation on the part of all concerned is necessary to enhance the quality of life in the NWT.

SCIENCE ADVISORY SERVICES

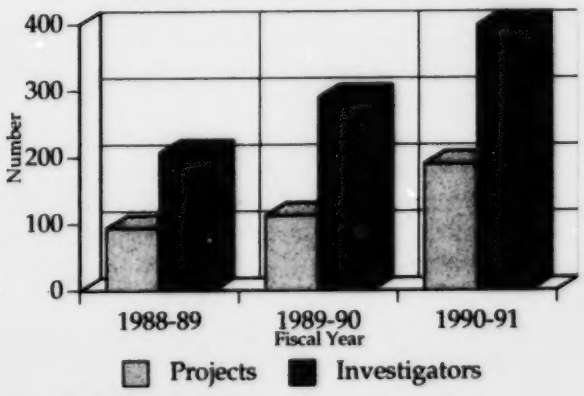
- issued 221 scientific research licences. Licencing facilitates consistency in community consultation and networking among researchers.
- assisted the Traditional Knowledge Working Group to identify areas of existing and potential integration of traditional aboriginal knowledge and knowledge gained through modern investigative techniques.
- worked in conjunction with the NHRDP North of 60 Committee to help ensure the health research needs of Northerners are identified and addressed.

SCIENTIFIC SERVICES

Many researchers conducting field work in the Northwest Territories count on logistical support from one or more of the Science Institute's three research centres in Igloolik, Iqaluit and Inuvik. These Centres are coordinated through a Directorate located at headquarters in Yellowknife headed by Mr. David Sherstone, Director of Scientific Services. The Directorate ensures that managerial efforts complement each other, financial and administrative tasks are facilitated and that the high standards of the Science Institute are achieved in all locales. Through camaraderie in the field, assistance at the three Research Centres and the provision of information and guidance from Scientific Services and the Science Advisory Services programs, the network of Northern researchers is strengthened.

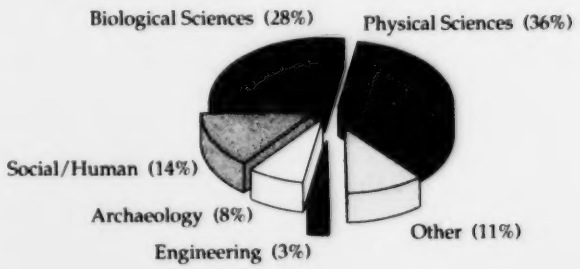
Use of the three Research Centres increased again this year. From April of 1990 through March of 1991, 181 projects were supported, an increase of about 50% over 1989-90. This growth trend has continued since the Science Institute took over the three Centres from Indian and Northern Affairs Canada in 1988 (Figure 1). The Iqaluit and Inuvik Centres were filled to capacity during most of the summer field season.

FIGURE 1
RESEARCH CENTRES SUPPORT SYNOPSIS
PROJECTS AND INVESTIGATORS



Fiscal Years 1988-89 to 1990-91

FIGURE 2
RESEARCH PROJECTS BY CATEGORY
PERCENTAGES



Research projects spanned a variety of disciplines (Figure 2, Table 1) There was a significant increase in physical science projects supported by the Centres. Activity increased to the levels of earlier years. A decrease in oil and gas exploration, attributed to the drop in petroleum prices, and the lack of land claim settlements led to a reduction in geological studies. There has been, however, an increase in the number of environmental studies designed to gather baseline data which can be used for future comparative analyses.

It is encouraging that the number of Canadian university researchers using the Centres has increased following a decline throughout most of the 1980s. Circumpolar cooperation was evident in the number of researchers from other countries using the Centres. Scientists came from the U.S.S.R., the United States, Denmark, Japan,

Great Britain, the Netherlands, Greenland and Sweden. More comprehensive analyses of Centre users and facility management data are contained in the *Annual Report of the Research Centres*, available from the Director of Scientific Services.

The Directorate

There is little doubt that research field work in the Northwest Territories is expensive. Vast geographic distances, extreme cold and restrictive transportation and communication systems dictate the need for advanced planning and field support. To enhance the logistical support and communications assistance provided to researchers working in isolated regions, the Director and Research Centre Managers participated in discussions with personnel of the Polar Continental Shelf Project of Energy, Mines and Resources Canada. The groundwork was laid for a Memorandum of Understanding between the two agencies. The agreement, when finalized, will allow both agencies to plan cooperative ventures to the benefit of Arctic researchers.

The Science Institute was asked to work with interested parties in the Fort Smith area to examine the potential for creating and operating a South Slave Research Centre. A study, documenting past research projects in the region and the feasibility of operating a Research Centre similar to the other Science Institute Centres, was completed by the Directorate of Scientific Services in August. The report concluded that to meet the interests of Wood Buffalo National Park and environmental research needs in the Peace-Athabasca Region, a joint-venture approach was necessary. The Board of the Science Institute approved $25,000 over the 1991-92 and 1992-93 fiscal years for a South Slave Research Centre Pilot Project to be located in Fort Smith. Within the scope of the Pilot Project, research programs will be coordinated and a strategy for establishing a permanent facility in Fort Smith will be developed. The Science Institute will provide administrative services and will direct personnel for this project. The Pilot Project will be managed by a Steering Committee composed of representatives of the co-operating agencies. Currently these include: the Town of Fort Smith, Arctic College, the Science Institute of the North-

TABLE 1
RESEARCH CENTRES SCIENTIFIC SUPPORT PROFILE
FISCAL YEAR 1990-91

Program	
Total Number of Projects Supported	181
Total Number of Investigators Supported	399
Total Person-Days of Support Provided	12,777

BY RESEARCH CENTRE AND STUDY CATEGORIES

Category	*Inuvik*	*Igloolik*	*Iqaluit*	*Total*
Physical Sciences	45	3	16	64
Biological Sciences	19	9	23	51
Social/Human	5	11	10	26
Archaeology	6	1	8	15
Engineering	3	0	2	5
Other	9	3	8	20
	87	*27*	*67*	*181*

west Territories, Parks Canada, the Departments of Economic Development and Tourism and Renewable Resources, Government of the Northwest Territories.

To facilitate the transfer of technical information to an interested general public, the Scientific Services Directorate initiated a series of scientific reports for general readership. Researchers are encouraged to contribute papers for the series. The first report, published in January, included two papers entitled, "Guidebook to Geological Localities in the Vicinity of Inuvik, N.W.T." by Dr. L. Dyke and "Pingos of the Western Arctic Coast" by Dr. J.R. Mackay.

Laura Lynn McCulloch, Summer Student Iqaluit Research Centre, talks to researchers in the field.

Staff Changes

Joining the Scientific Services team this year are Ms. Mabel Kudlak, Clerk/Secretary at the Inuvik Research Centre and Ms. Panik Lynn Cousins, Technician, at the Iqaluit Research Centre. Mr. George Qulaut, Operations Manager, Igloolik, returned from a one year personal development leave-of-absence. During his absence, Ms. Leah Otak acted as Operations Manager after completing training under the Northern Careers Program.

Ms. Laura Lynn McCulloch, a student in the Environmental Technology Program (ETP) of Arctic College, acted as Operations Assistant during the summer in Iqaluit. Mr. Eric Coleman, also an ETP student, was hired on a part-time basis in Iqaluit to assist during the winter.

Mr. Paul Irngaut resigned as Research Centre Technician in Iqaluit, to take a position with CBC North in September 1990. We thank Paul for his service to the Institute and for his efforts in promoting Science in Inuktitut and wish him success.

The Research Centres

Managers, Bob Longworth, Gary White and John MacDonald, of the Iqaluit, Inuvik and Igloolik Research Centres, actively support science in their respective communities. Staff at the Centres regularly collaborated with educators, researchers, government and non-government agencies and community groups to promote science awareness in the Northwest Territories and to inform other Canadians about science in the North.

A variety of audiences including northern school children, university and college students and professional organizations enjoyed presentations throughout the year. These included workshops, tours, talks and displays on topics such as geology, science careers, northern research and the Research Centre facilities. Visiting researchers were encouraged to discuss their research through science clubs, such as the Northwinds Science Club in Inuvik, and community talks or through the news media.

In addition to hearing about northern science, budding scientists were given the opportunity to try their own hand at research. Research Centre personnel assisted with learning outside of the classroom by:

- coordinating a Grade 10 Archaeology Field Course near Igloolik,

- leading a group of Grade 8 students from Samuel Hearne Secondary School on a geology field trip to an Inuvik limestone quarry,
- participating in a Grade 5/6 science camp at Rengleng River near Inuvik,
- supporting student field courses, based out of Iqaluit, offered by Arctic College and Bates College of the United States, and
- judging science fairs in Iqaluit and Inuvik. This year's fair in Inuvik was its largest ever.

The Research Centre facilities are ideal for use by outside agencies needing specialized accommodation.

George Qulaut, Operations Manager Igloolik Research Centre, assists with an experiment of the National Museum of Canada to grow domestic grasses in Igloolik.

- In Inuvik and Iqaluit, laboratory space was used by visiting veterinary clinics.
- The Igloolik Research Centre hosted a six-week dental therapy course run by the National School of Dental Therapy, Prince Albert, Saskatchewan.
- Sarcpa Lake field station was used as a base for the tenth year of a long-term ecological study by researchers from Queen's University under the direction of Dr. Robert Montgomerie.
- The Pearce Point field station, near Paulatuk, was used by a research team from the University of British Columbia. Dr. Charles Krebs, project leader, is currently investigating lemming population cycles.

Practicing Science at the Institute

As well as supporting visiting and local researchers, Scientific Services personnel conduct original research and collect data for visiting researchers. Many of the studies are long-term. One such study is the Igloolik Oral History Project (see page 13).

Original research studies undertaken this year by Centre staff included:

Mackenzie Delta Ice Regime, D. Sherstone
Hay River Ice Regime, D. Sherstone
Geology Guidebook to the Dempster Highway, G. White
Inuvik Culvert Ice Thawing Study, L. Kutny
Turton Bay Ice Measurement, J. MacDonald
Igloolik Oral History Project, G. Qulaut
Inuit Astronomy and Cosmology, J. MacDonald

Sometimes the public believes that research is conducted in a vacuum with little regard to the needs of residents of a region. However, collaboration does exist at the community level. For instance, the Mackenzie Delta Coordinating Committee, with membership including government and industry researchers, annually reviews research activities in the Mackenzie Delta and identifies research gaps. Mr. Gary White, Inuvik, chaired the February 1991 meeting of this committee in Edmonton.

Communities can pull together, recognize the value of all sources of scientific knowledge and use this to best solve a local problem. Mr. Bob Longworth and his Iqaluit Research Centre staff

committed a great deal of time to assisting south Baffin residents during the beluga quota crisis in the southeast Baffin. Meetings of the Nunavut Wildlife Management Advisory Board were attended; Science Institute staff from Yellowknife were briefed; help was given to develop positions and strategy for the formation and operation of the Southeast Baffin Beluga Review Committee and meetings were hosted at the Centre.

An example of a beneficial collaborative research project was one by Dr. Andris Rode, who this year followed up his study into the effects of acculturation on the fitness and health of Igloolik Inuit. Initial assessments were made twenty years ago. For the past ten years, twice each year, personnel from the Igloolik Research Centre took body measurements of 6 to 18 year olds to assess normal growth rates. Incidental to this study was an opportunity for the Centre staff to alert health personnel of slow growth among Inuit. Health officials were able to investigate possible pathological causes of the zero growth. The data gathered may be supplemented with periodic measurements in the future.

The cooperative efforts of the Institute are highly visible through Scientific Services. Via the Research Centres, many northerners learn about science and how it may improve our quality of life.

A SUMMARY OF PROJECTS AT OUR RESEARCH CENTRES

INUVIK

- Approximately 220 researchers working on 87 projects were supported.
- Renovations included painting the interior and exterior of the main research centre and upgrading accommodation facilities.
- Approximately one third of the library titles were entered into a D-base III database.
- A computer centre, for use by visiting researchers, was established.
- Winter research projects were monitored weekly on behalf of Dr. Chris Burns, University of British Columbia, Dr. Ross Mackay, UBC and Mr. David Sherstone, Science Institute.
- Cosmic ray detection equipment was monitored daily under contract to the National Research Council Canada.

IQALUIT

- Approximately 130 researchers working on 67 projects were supported, nearly doubling the use level over previous years.
- Service improvements included acquisition of scientific, computer and field equipment, and additional library titles which have been entered into a database. Construction began on a large warehouse/workshop.
- With the assistance of Centre personnel, CBC "Eastern Arctic" radio and CBC North television broadcast science stories weekly to an audience throughout the NWT and northern Quebec. These included interviews with visiting researchers, Simply Science columns in English and Inuktitut and other science news stories.
- Field researchers benefitted from an increased collaboration with the regional Emergency Measures Organization.

IGLOOLIK

- Approximately 50 researchers working on 27 projects were supported.
- Archaeology Field Course, a three-week Grade 10 credit course involving the excavation of a late Dorset culture site on Igloolik Island, was taught by Dr. Susan Rowley, University of Alberta. Carolyn MacDonald, an Igloolik school teacher, assisted.
- The oral history of Igloolik elders was recorded and transcribed. Records are stored at the Prince of Wales Northern Heritage Centre.
- Inuit astronomy legends, as told by Harve Paniaq and Niviatsian Aqatsiaq of Igloolik, were transcribed for use in conjunction with the Mobile Astronomy Program in Yellowknife.
- Daily monitoring of weather for Environment Canada and seismic data for Energy, Mines and Resources Canada continued.

Igloolik Oral History Project

Cooperation and collaboration of the highest calibre occurred in a community project coordinated by the Igloolik Research Centre. Inuit elders of the community identified a pressing need which the resources of the Centre could help meet.

The *Igloolik Oral History Project* began in 1986 when a group of Igloolik Inuit elders met to discuss ways of preserving something of their knowledge, language and accumulated experience for the benefit of future generations. There was a recognition that the rapidly changing conditions of life in northern communities acted against the natural transmission of traditional knowledge between generations. Immediate steps had to be taken to describe, explain and preserve many important elements of Inuit heritage now in danger of being lost forever.

With the assistance and support of the Igloolik Research Centre, a decision was made to embark on a long-term project whereby the elders' knowledge and experience would be recorded on audiotape. Virtually all aspects of Inuit traditional knowledge would be explored. Successive interviews on each topic would be increasingly detailed until the subject had been covered thoroughly. All interviews would be conducted in Inuktitut to capture the language's remarkable power of expression and extensive technical vocabulary. In addition to establishing a source of practical information and instruction, the accumulated material offered by the elders would foster a sense of pride in heritage and help affirm, for future generations of Inuit and for others reading the English translations, the richness, variety and uniqueness of Inuit culture and language.

About twenty-five elders participate in the project. Together they represent the final generation of Igloolik Inuit who have lived most of their lives "on the land", sustaining themselves through the application of traditional skills, knowledge and wisdom. Never again will there be such a group whose accumulated experience encompasses so much of traditional Inuit values and culture. It is this fact which makes the project so important and so urgent.

Over one hundred and fifty interviews, each averaging about an hour in length, have been

recorded. The range of topics covered to date include:

- life histories and genealogies
- child-care
- socialization
- traditional beliefs and values
- hunting technology and techniques
- animal ecology
- skin preparation, clothing and sewing techniques
- treatment of illness
- weather prediction
- snow and ice conditions
- astronomy
- local geography
- dog-team management, travel and navigation
- kayak building and shelter construction.

The interviews are translated into English, word-processed and indexed. During the translation process, technical and archaic words and expressions in Inuktitut are gathered and sorted; these will be compiled into specialized lexicons. Arrangements are being made to transcribe the interviews into Inuktitut standard syllabic and "Roman" orthographies. Copies of all project materials - audio tapes, translations, transcriptions and computer disk files are deposited in the archives of the Prince of Wales Northern Heritage Centre in Yellowknife. The historical material will add significantly to a growing body of information on aboriginal knowledge and traditions. This material will be of immense value to researchers and will also have implications for a wide range of current NWT developments in such areas as education, justice, economics, renewable resource management, tourism and social services.

Louis Tapardjuk interviews Emile Imariuttuq who is explaining how traditional Inuit tools and harpoons were made and used.

Rosie Iqallijuq examines a volume of Knud Rasmussen's, Fifth Thule Expedition 1921-1924. *As a young girl, Rosie had met the Arctic Explorer. Rosie's, and other elders', stories of the past are being recorded so that future generations may learn of the old ways.*

The Project has been supported financially by the Science Institute of the Northwest Territories, Culture and Communications, Government of the Northwest Territories, the Inuit Cultural Institute, and Indian and Northern Affairs Canada. The Igloolik Research Centre provides all the facilities, equipment and supplies required by the Project. Two members of the Centre's staff, John MacDonald and George Qulaut, are active in coordinating the project and managing its relationship with external funding agencies. Louis Tapardjuk and Leah Otak, both of Igloolik, undertake the difficult task of translation. The project continues.

INFORMATION/EDUCATION

Scientists are passionate people. They have an intense desire to learn about the world, sometimes under adverse circumstances and often for long periods of time. Yet they persist knowing that their effort is critical to understanding a problem and revealing a solution. One piece of knowledge may not suffice. Equally important may be the insight provided by a Dene hunter, a summer student doing research in the field or an entrepreneur or engineer mastering the technology of the science. Alone, none may have the solution. Together, a solution may emerge. This tapestry of knowledge may lead to a better understanding of how, for instance, to provide and distribute nutritious foods to a growing Northern population. Underlying this approach is the realization that cooperation and collaboration are of the utmost importance. Whether the knowledge comes from a social scientist who systematically listens to people, a physical scientist who carefully observes and measures natural phenomena or an aboriginal elder whose life experience is a fundamental information base, any knowledge is of little value unless shared.

Carol Read, Department of Fisheries and Oceans, instructs children at the Cross-cultural Science Camp.

The Science Institute of the Northwest Territories, through its Information/Education program, is facilitating information transfer and education of the populace - weaving a fabric of knowledge from many sources. Much has been done with our limited resources; much remains to be done. During this past year, students, educators, government officials, businessmen, members of professional associations and the general public have contacted the Program Coordinator, Mrs. Jane McMullen, and/or been contacted by her. The spirit of cooperation is being nurtured both within the Institute and beyond its doors.

A Public Education Working Group was formed to address the mutual needs of people charged with passing a scientific message to diverse target audiences in the NWT. Within their respective programs, members of the group routinely develop projects for people of all ages who may be fluent in only one of nine official languages in the NWT, or who may live in communities separated by thousands of kilometres. The Group includes front-line information-oriented personnel from GNWT Departments of Education, Safety and Public Services, Health, Public Works, Renewable Resources, Economic Development and Tourism, the Prince of Wales Northern Heritage Centre and Arctic College. Federal departments and non-government agencies are also represented. These are Ecology North, Northwest Territories Association of Professional Engineers, Geologists and Geophysicists, Industry, Science and Technology Canada, Environment Canada and the Canadian Wildlife Service. The door remains open to all those interested in carrying a "scientific" message to the general public. To date,

the Working Group has produced a calendar of public awareness weeks and shared information about each others' mandates, resources, and projects, whether completed or still in the planning stage. This information exchange has increased the number of joint projects, thereby making the best use of limited human resources and available funds.

Careers, contests and chemicals were discussed at a mall display during National Science and Technology Week, 1990.

The first National Science and Technology Week, held in October 1990, was one such project. The science and technology awareness week, a concept of the Public Awareness Campaign of Industry, Science and Technology Canada, focused on domestic technology. Activities, which were designed to encourage people to think about the science and technology used in their homes, included an interactive display and tours of facilities including the City of Yellowknife's water and sewage infrastructure. Careers requiring a scientific background were highlighted in displays and talks by professionals. A territorial-wide contest on science in our daily lives was won by Sara Riddell, a Grade 6 student at J.H. Sissons School in Yellowknife.

A second cooperative project was the Institute's Cross-cultural Science Camp which this year received recognition as a significant event of the World Decade for Cultural Development, a proclamation of the United Nations Educational, Scientific and Cultural Organization (UNESCO). Children from the Yellowknife School Districts and the Dogrib Divisional Board of Education attended a week long camp on an island in the Frank Channel near Rae. Dogrib elders, scientists, technicians, educators and students all learned from each other. Rabesca Resources Limited of Rae worked with the Institute to bring the participants together in an atmosphere of respect and understanding which could not be achieved in any classroom. This collaborative effort was made possible through funds and services donated by a number of government departments and private businesses. (Please see page 2.)

The Information/Education program adapts established national and provincial educational projects to suit northern needs. The Shad Valley Program of the Canadian Centre for Creative Technology is a venture in which the Institute has participated for the past two years. Senior high school students, who are top achievers in science and extracurricular leadership, are chosen from across Canada to participate in a one month program at selected Canadian university campuses in July. This is followed by a work term in August. Mr. Giles Pinto, formerly of Sir John Franklin School in Yellowknife, attended the University of Calgary program and then worked as an Information Officer within the Information/Education Program. Giles initiated two databases, one listed the literature submitted to the Institute by researchers and the second listed library titles. Giles also assisted in compiling the Institute's annual summary of research.

The Science Fairs program of the Youth Science Foundation was supported again this year. Information exchanges between six Regional Fair coordinators were facilitated. Prizes for each Regional Fair have been established by the Institute. The Institute funded travel for all Re-

gional winners to the Canada Wide Science Fair in Vancouver. Science Alive, a resource guide for Science Fairs which was produced in 1989, continued to be a popular marketable item, particularly in northern provincial school jurisdictions. Dial-an-Expert, a science hotline, continued to be a well-used service, especially near the time of school science fairs. Through this service, sources of scientific information are given to the caller or potential science project topics are discussed. Journalists and government personnel have joined students in using Dial-an-Expert.

Yellowknife school children lay back to look at the "stars" in the Mobile Planetarium of the Edmonton Space Science Centre during its visit to the N.W.T.

Interesting speakers were hosted throughout the year in Yellowknife. A school and public presentation on Laser Technology was arranged in collaboration with the Industrial Research Assistance Program (IRAP). Mr. George Hobson, longtime Arctic researcher and Member of the Board of the Institute, spoke on pingos while in Yellowknife for a Board meeting. The Mobile Astronomy Program, a travelling planetarium operated by the Edmonton Space Science Centre, delighted school and public audiences. A special feature of this display, developed in cooperation with the Igloolik Research Centre and two Igloolik elders, was an Inuktitut/English storyboard on two Inuit constellations and their associated legends.

Information items produced in cooperation with other Institute programs, included an education newsletter, a researcher newsletter, a public newsletter on the Science Institute, the 1989 Annual Summary of Research and the 1989-90 Annual Report, Northern Science to Share. A guide to the geology of the Inuvik region, written in non-technical language, was published. This is the first of a series of similar publications.

Efforts were also directed to developing a comprehensive display on the Science Institute and northern science. The display has already been well received by local and international audiences.

Cooperation is definitely second nature to the Information/Education program and collaboration is its key to success.

INFORMATION/EDUCATION HIGHLIGHTS

- The Public Education Working Group was founded to encourage information and resource sharing among those charged with public science education.
- Groundwork for promoting scientific awareness through all programs of the Institute has been laid. A display of northern science and periodic public, education and researcher newsletters was developed.
- Specific projects included the Cross-cultural Science Camps (which received UNESCO recognition), the Mobile Astronomy Program and National Science and Technology Week.

TECHNOLOGY DEVELOPMENT

Science and technology, knowledge and its applications, shape the lifestyles of all people. Old tools and processes for living are maintained or modified depending on usefulness; new tools and processes are developed as needed. The extreme environment of the Northwest Territories often makes technologies, appropriate in more southerly climates, inappropriate in the North. For this reason the Technology Development Program at the Science Institute is a priority, expanding to provide a strong technological resource base to meet the needs of both industry and residents of the Northwest Territories.

Food production technology and the technology of interfacing traditional knowledge and artificial intelligence are two thrusts of the Technology Development Program.

Collaboration between Technology Development personnel and other agencies is cohesive. Federal supporting groups include the National Research Council of Canada, Indian and Northern Affairs Canada, Environment Canada and Energy, Mines and Resources Canada. The Government of the NWT departments working closely with this program are Public Works, NWT Power Corporation, NWT Housing Corporation, Economic Development and Tourism and Energy, Mines and Petroleum Resources. Dr. S.Y. (Joe) Ahmad, Technology Development Program Manager, and Mr. Craig d'Entremont, Industrial Research Advisor, are a strong team, promoting and marketing technology.

TECHNOLOGY DEVELOPMENT PROGRAM (TDP)

The TDP is a new initiative of the Science Institute which complements the Industrial Research Assistance Program (IRAP). The objective of the TDP is to develop a comprehensive business plan for technology development in the Northwest Territories. In order to achieve this goal, an assessment of available technologies, potentially viable in the North, was undertaken.

Through consultation with NWT industry, five anchor technologies have been identified which form the thrust of the Program:

1) alternative energy
2) environmental management
3) food production
4) engineering technologies, including building science, mechanical and geotechnical, *and*,
5) traditional knowledge/artificial intelligence.

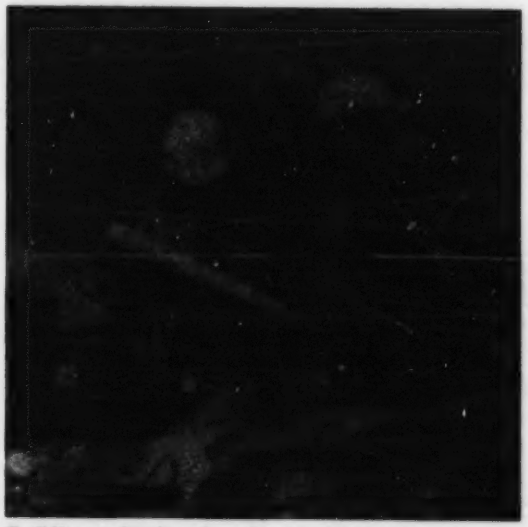
To promote these areas the tasks of the TDP are three-fold: assessment, encouragement and participation.

The initial projects are in alternative energy. The ground work has been laid for installing wind generators in Igloolik and photovoltaic (PV) systems in both residential (Igloolik) and insti-

tutional (Inuvik) settings. The objective of both of the studies is to establish baseline data to develop the appropriate scale of operation for alternative energy applications in northern communities.

Industrial Research Assistance Program (IRAP)

For three decades the National Research Council of Canada (NRC) has been helping industry compete in the marketplace by providing up-to-date tools and know-how. Through IRAP, 220 Industrial Technology Advisors (ITAs) administer a program of assistance to small businesses, typically those with fewer than 200 employees. IRAP is an excellent program for the NWT.



Building technology benefits from Technology Development at the Science Institute.

Since October of 1988, IRAP has been delivered in the NWT through the Science Institute. Short-term financial assistance was given to support project development and science or engineering student salaries. Technical and marketing expertise was also provided.

To date, seventeen projects have been approved for grants which have totalled $225,000. Some examples of projects which have been funded are software development for the Cape Dorset Co-op; research into the application of investment-casting technology for Treeline Trappings, Yellowknife; Canadian Standards Association testing for a mechanical firm in Yellowknife; technical assistance to the agricultural sector; product development assistance with a soil-cement material for the geotechnical sector and a light-weight steel truss for the construction industry.

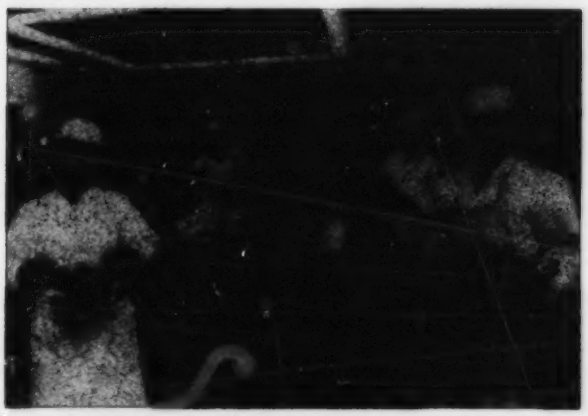
Ferguson, Simek and Clark, an engineering and architectural consulting firm in Yellowknife, was the first NWT business approved under an IRAP-M for the research and development of a product. IRAP contributed $46,000 of the total cost (in excess of $150,000) to design and manufacture a light-weight steel truss (LWST). With the successful completion of this project, the company sold their first residential 4-plex, designed and built with LWSTs, to the NWT Housing Corporation. This 4-plex will be built in Cambridge Bay. This new technology may save as much as 25% of the total cost of construction in the North because the trusses are lighter, more fire resistant, less costly and allow faster construction of buildings compared to traditional dimensioned lumber.

Other organizations receiving funds were EBA Engineering, Yellowknife; the Science Institute of the NWT, Iqaluit; Tuaro Dairy, Yellowknife; Cascade Publishing, Fort Smith; Thurber Engineering, Yellowknife; Ray Pirker Plumbing, Yellowknife; and Northern Micro On-line Services, Hay River.

Where Are We Going?

Significant cooperative exploratory work was completed to create a Northern Construction Research Advisor position at the Institute. The advisor will act as a liaison between the private sector, government departments and construction research institutes in Canada and abroad.

Collaborative work will continue to be paramount to the success of Technology Development at the Institute, ensuring that the best technology reaches the people of the Northwest Territories.



Food production technology benefits from Technology Development at the Science Institute.

TECHNOLOGY DEVELOPMENT

- Through NRC's Industrial Research Assistance Program (IRAP), administered in the NWT by the Institute, small businesses were awarded a total of $225,000 dollars for projects involving extensive research and development.
- Technology Development Program (TDP) has identified 5 anchor technologies appropriate for development in the NWT with the current emphasis being alternative energies.
- A Northern Construction Research Advisor, a position created through the cooperative efforts of interested parties, is to be housed at the Institute beginning in 1992.

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

FINANCIAL STATEMENTS

MARCH 31, 1991

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Balance Sheet 25

Notes to the Financial Statements 26

MacKay & Partners

Chartered Accountants

AUDITORS' REPORT

To the Board of Governors
Science Institute of the Northwest Territories

We have audited the balance sheet of the Science Institute of the Northwest Territories as at March 31, 1991 and the statements of revenue, expenditures and unexpended funds for the year then ended. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Institute as at March 31, 1991 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

MacKay & Partners

Yellowknife, Northwest Territories
May 27, 1991

CHARTERED ACCOUNTANTS

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

STATEMENT OF REVENUE, EXPENDITURES AND UNEXPENDED FUNDS

FOR THE YEAR ENDED MARCH 31, 1991

	1991 $		1990 $
	Revised Budget	Actual	Actual
REVENUE			
Government of the Northwest Territories			
Department of the Executive	1,518,050	1,580,359	1,591,524
Department of Renewable Resources	3,000	10,463	12,000
Department of Education	2,000	-0-	6,000
Department of Culture and Communications	3,000	3,000	2,400
Government of Canada			
Employment and Immigration	3,428	3,403	1,247
National Research Council of Canada	94,300	101,310	94,983
Fisheries and Oceans	-0-	35,479	-0-
Industry, Science and Technology	25,000	-0-	23,575
Energy, Mines and Resources	4,800	10,400	2,400
Environment Canada	-0-	-0-	1,800
Cultural and Consumer Affairs	-0-	70,000	-0-
Boards of Education	3,500	3,000	-0-
Interest	90,000	133,525	98,648
Donations	20,000	9,000	-0-
Contributions from:			
Pacific Metals	-0-	-0-	5,000
Northwest Territories Power Corporation	-0-	-0-	1,000
Publications	1,000	1,075	195
Rental and services	3,000	5,658	2,954
Sale of assets	-0-	818	15,535
	1,771,078	1,967,490	1,859,261

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

STATEMENT OF REVENUE, EXPENDITURES AND UNEXPENDED FUNDS

FOR THE YEAR ENDED MARCH 31, 1991

	1991 $		1990 $
	Revised Budget	Actual	Actual
REVENUE (Carried Forward)	1,771,078	1,967,490	1,859,261
EXPENDITURES			
Salaries and benefits	995,810	1,031,474	968,845
Administration	110,000	71,360	100,444
Special projects	-0-	35,479	-0-
Board of Governors	53,000	13,768	14,673
Chairman	10,500	3,448	5,295
Executive Director	18,250	20,331	17,327
Industrial Research Assistance Program	41,690	52,073	36,692
Information/Education	126,500	80,267	95,684
Medical Research	-0-	70,000	-0-
Research Centre operations - Igloolik	74,000	59,796	74,504
Research Centre operations - Iqaluit	61,000	57,036	64,900
Research Centre operations - Inuvik	67,000	64,008	63,466
Research Centre operations - Headquarters	42,600	87,516	38,370
Research Assistance	-0-	-0-	23,650
Science Advisor	10,000	5,041	-0-
Science Administration	33,900	13,654	-0-
Technology Development	110,000	48,844	19,796
	1,754,250	1,714,095	1,523,646
INCREASE IN UNEXPENDED FUNDS FOR THE YEAR	16,828	253,395	335,615
UNEXPENDED FUNDS, OPENING	597,040	597,040	261,425
UNEXPENDED FUNDS, CLOSING	613,868	850,435	597,040

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

BALANCE SHEET

AS AT MARCH 31, 1991

	1991 $	1990 $
ASSETS		
CURRENT		
Cash and term deposits	1,129,588	729,442
Accounts receivable	182,084	163,839
Prepaid expenses	1,732	851
	1,313,404	894,132
FIXED ASSETS	781,063	664,059
	2,094,467	1,558,191
LIABILITIES		
CURRENT		
Accounts payable and accrued liabilities	297,618	137,045
Deferred revenue (Note 2)	165,351	160,047
	462,969	297,092
INSTITUTE'S EQUITY		
INVESTMENT IN FIXED ASSETS	781,063	664,059
UNEXPENDED FUNDS (Note 3)	850,435	597,040
	1,631,498	1,261,099
	2,094,467	1,558,191

APPROVED BY THE BOARD OF GOVERNORS:

John H. Parker Chairman

Kaye L MacInnes Governor

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED MARCH 31, 1991

1. SIGNIFICANT ACCOUNTING POLICIES

A. Unrecorded Costs Paid by the Government of the Northwest Territories
The Government of the Northwest Territories provides approximately 1,850 square feet of office space, rent free. In addition the Government provides telephone and mail services, printing, translation and library services, as well as other services that are under an Administration Agreement without charge. No provision has been made for these costs.

The G.N.W.T. also provides 3 research centres, 5 scientific reserves and 2 field stations along with all maintenance and utilities related thereto, for the exclusive use of the Institute on a rent free basis. No provision for these costs are included in these financial statements.

B. Fixed Assets
Fixed assets are expensed in the year of acquisition. The accounts "fixed assets" and "investment in fixed assets" reflect the historical cost of all assets owned by the Institute.

Office equipment and furnishings belonging to the Government of the Northwest Territories that were being used by the Institute were transferred to the Institute by the Administration Agreement on February 18, 1987 and recorded at values established by the Government of the Northwest Territories.

Office equipment and furnishings associated with federal research facilities in the Northwest Territories were transferred to the Institute under an agreement dated November 18, 1988 and recorded at values established by the Government of the Northwest Territories.

SCIENCE INSTITUTE OF THE NORTHWEST TERRITORIES

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED MARCH 31, 1991

2. DEFERRED REVENUE

Deferred revenue represents monies committed for programs for which the expenditures have not yet been incurred.

	1991 $	1990 $
Medical Research - Minister of Consumer Affairs	132,095	151,312
Slowpoke Reactor Program - Energy, Mines and Resources	7,000	7,000
Rayrock Program - Indian and Northern Affairs	1,735	1,735
Beluga Research - Minister of Fisheries and Oceans	24,521	-0-
	165,351	160,047

3. UNEXPENDED FUNDS

Included in unexpended funds is $402,310 which the Board has identified to be spent on the Technology Development Program in the next two fiscal years and $100,836 which the Board has identified to be spent on medical research.

4. JURISDICTION OF INCORPORATION

The Science Institute of the Northwest Territories was established by an Act of the Government of the Northwest Territories in 1984.

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ᓄᓇᑕᐅᓐᓄᖅᑐᑦ ᖃᐅᔨᓴᖅᑐᑦ ᐊᒻᒪᓗ ᓄᑖᖅᓯᕕᒃᓴᓂᐊᕐᓂᖅ ᑕᒪᓐ ᐅᑭᐅᔾᔨᖏᑦᑐᑦ ᐃᓄᐃᑎᐅᓂᖅᑐᑦ ᐊᑐᓕᖅᑐᑦ. ᐃᓄᐃᑦ ᐃᖅᑭᐅᓂᖅ ᓄᑖᖅᓯᕕᒃᓴᓂᐊᕐᓂᖅ ᐊᑐᖃᖅᑎᑦᓯᐊᕐᓂᖅᑐᑦ ᐃᓕᓴᕐᓂᐊᕐᓂᖅᑐᑦ. ᑕᒪᓐᓇᐅᔪᒪᓂᖅ ᐊᑐᖃᖅᑎᑦᓯᐊᕐᓂᖅᑐᑦ ᐱᓕᕆᔨᒃᑯᓐᓂᖅᑐᑦ ᐊᑐᖃᖅᑎᑦᓯᐊᕐᓂᖅᑐᑦ ᓄᑖᖅᓯᕕᒃᓴᓂᐊᕐᓂᖅ

ᐃᓕᓴᕆᔨᐅᔪᑦ

ᓄᓇᕗᑦ ᓴᓇᔨᐃᓐᓇᓕᕆᓂᖅ ᖃᐅᔨᓴᖅᑎᓂᕐᓂᖅᓄᑦ ᑯᐊᐸᖏᐃᓐᓇᖅᑐᑦ ᑭᓇᐅᔨᓂᐅᕙᒃᑐᖅᓯᒪᔪᑦ ᑕᐃᒪᐃᓐᒥᑦ ᑭᓇᐅᔨᑦ ᑐᓂᖏᑕᐅᔪᑦ ᐃᑲᔪᐊᑎᒍᑦ. ᑕᐃᓐᓄᐊᐅ ᑭᓇᐅᔨᑦ ᑲᑐᔾᔨᖃᑎᒌᓐᓂᖅᓯᒪᔪᓂᑦ ᑐᓂᖏᑕᐅᓪᓚᕐᓗᑎᑦ ᐃᓕᓴᕆᔨᐅᔪᑦ ᐱᓕᕆᐊᒃᓴᓂᑦ 1990-91-ᒥ ᑭᓇᐅᔨᓂᓂᐅᑦ ᐊᖏᔪᒍᒪᔪᓂᐅᑉᓯᓐᓂᖅᓄᑦ ᐃᑲᔪᐊᑎᒍᓐᓇᖅᑐᑦ.

- Chevron Canada Resources
- Foothills Pipe Lines Ltd.
- Strathcona Mineral Services
- Esso Resources Canada
- Northwest Transport Ltd
- ᓄᓇᕗᑦ ᓯᑭᒪᓐᓇᓂᑦ ᐃᓕᓴᐅᔪᓂᕐᓂᖅᓄᑦ ᑐᓴᐅᒪᓐᓇᖅᑐᑎᓪᓗ
- ᓄᓇᕗᑦ ᓯᑭᒪᓐᓇᓂᑦ ᐅᓴᒪᔨᓂᕐᓂᖅᓄᑦ
- ᑲᓇᑕᐅᑦ ᓯᑭᒪᓐᓇᓂᑦ: ᑲᓇᑕᒥ ᓴᓇᑐᐃᓐᓇᓕᖅᑐᑦ ᐃᓕᓴᐅᑐᖅᑲᓂᓪᓗ ᖃᐅᔨᓴᖅᑎᓂᕐᒥᑦ ᐱᓕᕆᐊᒃᓴᖅ
- ᑮᓚᐃᐃᑦ-ᒥ ᐃᓕᓐᓂᐊᕐᕕᑦ ᐊᐱᕐᑐᖅᓴᖅᓯᒪᓂᖅ 1-ᒥᑦᑐᖅ
- ᑕᕐᕿᑎᐊᑦ ᐃᖅᓗᓂᕐᑕ ᐃᓕᓐᓂᐊᕐᑐᖅᑐᑦᓴᒪᓂᕐᒪᓂᕐᒥᑦ

ᖃᓄᐃᓕᒪᔨᖅᑕᕐᑐᑦᑕᐅᖅ:

- ᓄᓇᕗᑦ ᓯᑭᒪᓐᓇᓂᑦ ᓴᓇᔨᓕᓂᕐᓂᖅᓄᑦ; ᐅᓴᒪᖃᑎᒌᓂᕐᓂᖅᓄᑦ
- ᑲᓇᑕᒥ ᐃᒪᖃᐅᑕᓂᕐᓂᖅᓄᑦ
- ᓇᕆᐊᐃᑐ ᐃᓐ ᑐᓴᖃᑦᑕᕐᖓᑦ, ᐃᖃᓗᓐᓂᑦ
- ᓄᐊᑦᑭᑦ ᑕᐃᓚᑐᓚᓗᓐ ᐃᐊᑦ, ᖃᖅᖓᑕᓯᓂᕐᓂᖅᓄᑦᖓᑦ
- ᑭᖅᑭᑕᔪᓐᓇᐃᓐᓂᓪ ᐃᑲᔨᑎᑎᓴᐅᓕᐅᖅᑐᑦ ᓄᓇᕗᑦ ᓴᓇᔨᐃᓐᓇᓕᕆᓂᖅᓄᑦ ᖃᐅᔨᓴᖅᑎᓂᕐᓂᖅᓄᑦᓂᑦ ᐱᓕᕆᐊᓚᓴᐅᓇᓯᓕᐅᖅᑐᑦ.

ᓄᓇᕗᑦᑐᖓᓂ ᓄᓇᑐᐃᓐᓇᕐᓂᖅᓴᖅᓯᒪᓂᖅ ᐅᓂᒃᑳᓕᕐᑕᐅᔪᓐᓇᖅᑐᑦ ᑕᒪᓐᓇᐅᑉ 1990-91-ᒥ.

ᐃᒃᓱᓕᐅᑕᐅᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᐅᑦ ᐅᖃᖅᑎᓱᒃᑐᖓᓂᒃ

ᐃᒃᓱᖃᖅᑎᑦᓯᓂᖅ ᐊᒻᒪᓗ ᐱᓕᕆᖃᖅᑎᑦᓯᓂᖅ - ᓇᖕᒥᓂᖅᓯᓂᖅᓴᖅ, ᐃᓕᓴᕐᓂᐊᖅᑐᓂᖅᓴᖅ ᐅᓪᓗᒥ ᓄᓇᓕᖕᒥᓂᖅ ᓄᓇᓕᖕᒥᓂᖅᓴᖅ ᓄᑖᒃᑯᐊᓕᕐᓂᖅᓴᖅᓱᒃ, ᐊᑐᖅᑕᐅᔪᓐᓇᖅ ᑕᒪᓐᓇ ᐅᐱᐅᖅᑕᕐᓂᐊᑕ ᐊᐅᓚᑦᑎᐅᑦ ᐃᓄᐃᑦ ᐱᔾᔪᑎᒃᓴᖅᓱᒃᑐᖓᓂᒃ. ᐊᒥᓱᓕ ᐊᐅᓚᑦᑎᐅᑦ ᓄᓇᓕᖕᒥᓂᖅᓴᖅᓱᒃᑐᖓᓂᒃ ᐊᐅᓚᑦᑎᐅᑦ ᐃᓄᐃᑦ ᐱᔾᔪᑎᒃ

ᒥᑦᑐ ᖃᓄ H. ᕿᑯ ᑲᑎᒪᓕᕐᓂᓕᕆᓂ ᐃᓕᓴᐅᑎᓕᕆᓂᖅᓯᒪᔪᖅ ᓴᓕ. ᒥᑦᑐ ᑲᐃ ᒪᑭᓕᑦ. ᐊᐅᑎᒥᑦ ᖃᐅᔨᓴᖅᑎᑐᐅᔪᖅ ᐃᓚᓕᓴᐅᑐᖃᖅᑐᓂᓕᕆᓂᖅ; ᒥᑦ ᔪᐊᑉ ᕿᓚᐱ. ᐊᑭᓚᕐᔪᓕ. ᐃᓕᑭᓕᑉ ᐃᓕᓴᐅᒪᔭᓂᖅᓯᒪᓂᖅ; ᒥᑦᑐ ᕿᑦ ᐄᐊᑦᑎᑦ. ᐃᓕᖅᓱᓂᑦ ᓇᖓᓕᖅᖃᖅᑐᓄᑦ ᐊᐅᒪᔪᖅ ᐅᑭᐅᖅᑕᕐᑐᒥᑦ ᓴᓇᓕᖅᖃᖅᑐᓄᑦ; ᒥᑦᑐ ᕿᑦ ᐅᓇᓱᖅᑐᓄᑦ ᐊᐅᒪᔪᖅ ᐊᑐᓕᖅᑐᓄᑦ ᐃᓕᓴᐅᒪᔭᓂᖅᓯᒪᓂᖅ

ᑕᒪᓐᓇᕐᒥᒃ ᖃᐅᔨᒪᓂᕐᓗᓂ, ᓂᕆᐅᖓᓂᕐᒥ ᖃᓄᐃᓕᐅᕈᑎᓂᕐᒥ ᐱᓕᕆᔨᒃᑯᑦ ᐱᓕᕆᔨᒃᑯᑦ ᐃᓄᐃᑦ ᑲᑎᒪᔨᓂᖅ ᐊᑐᐊᓕᖅᑐᑦ ᐃᓄᐃᑦ

ᓄᓇᓕᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᐅᖃᐅᔨᓴᐃᓇᐃᓂᖅ

ᓄᓇᓕᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᑕᐅᓂᖓᓕᒃ ᐅᖃᐅᔨᓴᐃᓇᐃᓂᖅ ᐅᓪᓗᓕᒫᓂᖅ ᐃᓄᖓᓕᒫᖅ ᓄᓇᓕᖅᑐᑦ ᓄᓇᕗᑦ, ᖃᐅᔨᓴᖅᑎᑦᓯᓚᖅᑐᑦ, ᑲᑎᕋᕐᓗᒋᑦ ᖃᐅᔨᓴᖅᑎᑕᐅᓂᒃᑯᓂᖓᓕᒃ, ᓄᓇᓕᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᐊᑐᓕᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᐊᑐᖅᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᖃᐅᔨᓴᖅᑎᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᓄᓇᕗᑦ, ᑕᒪᓐᓇ ᓄᓇᓕᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᐃᓕᓐᓂᖅ, ᓄᓇᓕᖅᑐᑦ ᐱᓕᕆᓂᖅ ᐊᑐᓂᑦ ᐃᓅᓂᖅ, ᓄᓇᓕᖅᑐᑦ ᐱᓕᕆᓂᖅᓴᖅᓯᒪᓂᖅ ᐊᑐᖅᑕᐅᓂᒃᑯᓂᖓᓕᒃ ᐃᓕᓐᓂᖅ ᐃᓄᖓᓕᒫ

ᓄᓇᕗᑦᓂᕐᒧᑦ ᑲᑎᕋᐅᓕᕆᓂᕐᒧᑦ ᑲᑎᕋᐅᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ ᑲᑎᒪᔨᓂᕐᒧᑦ ᐊᑐᐊᓂᖅ

ᓄᓇᕗᑦᑎᓐᓄᑦ ᓴᓇᔨᓴᖅᑎᑕᐅᓯᒪᓂᖅ ᐅᓂᒃᑳᕐᓂᕐᒧᑦ ᑐᓴᕐᕕᒃᓴᓕᐅᑉᐳᓚᕆᐊᖃᖅ 1990-91-ᒥ.

ᓴᓇᔨᓴᖅᑎᑐᑦ ᖃᐅᔨᓴᖃᑎᒌᓕᕆᓂᖅ ᐃᓕᓴᕐᓂ

ᐅᓄᖅᑐᐃᓐ ᖃᐅᔨᓴᖃᕐᓂᖅ ᖃᐅᔨᓴᕆᔨᑐᐃᓐ ᓄᓇᕗᑦᑎᓐᓄᑦ ᑎᑎᕋᕐᕕᒃᓴᓕᐅᑉᐳᓚᕆᐊᓂᖅ ᐃᓕᓴᕐᓂᑎᒍᑎᓕᕆᔨᑐᐃᓐ ᐊᒃᑕᐅᓯᒪᔪᑦ ᓴᓇᔨᓴᖅᑎᑐᑦ ᐱᖓᓱᐊᓂᖅ ᖃᐅᔨᓴᖃᕐᓂᖅ ᐃᓗᓕᖅᑎᑦ, ᐃᓚᖏᑦ, ᐊᑐᒪᓗ ᐃᓄᐃᓕᖅᑎᑦ. ᒪᓕᒐᒃᑰᑦ ᖃᐅᔨᓴᖃᕐᓂᖅ ᒪᓕᒐᒃᑰᑦ ᓴᓇᔨᓴᖅᑎᑐᑦ ᐊᑐᓕᖅᑎᓂᒃᑯᑦ ᐊᒡᓕᑎᑎᕋᕐᕕᒃ ᒥᑦᑕ. ᑕᐃᐱᓕ ᓄᓇᕗᑦᑎᓐᓄᑦ ᐊᒡᓕᑎᑎᕋᕐᕕᒃ ᐊᑐᓕᖅᑎᓂᒃᑯᑦ ᐃᓚᖏᑦ ᓴᓇᔨᓴᖅᑎᑐᑦ ᐊᒡᓕᑎᑎᕋᕐᕕᒃ ᐃᓚᖏᑦ ᐊᑐᓕᖅᑎᓂᒃᑯ

ᐅᓄᖅᓯᓂᒃ 1980-ᓂᒃ

ᐅᑭᐅᓕᖅᑐᑦᑐᐅᑦ ᐃᑲᔪᖅᑎᖅᓯᓄᑦ ᑕᒪᐃᐅᓂᖅᐳᓕᕆᔨᒃᑯᑦ ᖃᐅᔨᓴᖃᑦᑕ ᐅᓂᖅᓂᒃ ᐊᕐᓇᖅᓂᒃ ᓄᓇᓕᖅᑐᖅ ᐊᑐᓕᕆᓂᒃ. ᖃᐅᔨᓴᖃᑦᑕ ᑕᒪᐃᐅᓂᖅᐳᓕᕆᔨᒃᑯᑦ ᕿᐊᒥᒃ, ᐊᒥᓱᓂᒃ, ᑎᑎᕋᕐᓂᒃ, ᖃᓪᓗᓂ, ᐃᓚᖏᓪᓗ ᓄᓇᓕᖅᑐᖅ, ᐅᓪᓗᒥ ᓄᓇᓕᖅᑐᖅ, ᐊᑐᓕᕆᓂᒃ, ᐊᒥᓱᓂᒃ ᓄᓇᓕᖅᑐᖅ. ᐊᒥᓱᓂᒃ ᐊᑐᓕᕆᓂᒃ ᐊᑐᓕᕆᓂᒃ ᐊᒥᓱᓂᒃ ᐊᑐᓕᕆᓂᒃ ᐊᑐᓕᕆᓂᒃ ᐊᑐᓕᕆ

ᐊᐅᓪᓚᑕᐅᓇᒃᖢᑎᒃ ᐊᖏᓪ ᐱᓕᕆᔨᖏᓪᓗᓂᐅᓇᓂᒃᖢᑎᒃ ᐊᖏᕐᕋᓱᓇᓯᓂᒃ ᐃᓕᓴᕐᕕᒃᓴᖅᑎᑦ ᑐᑭᓯ ᓴᓇᓕᒃ ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂᒃᖢᑎᒃ. ᓄᓇᓕᖕᓂᒃ ᐃᓚᐅᑎᑦᓯᐊᓂᒃᖢᑎᒃ ᐊᑐᓕᖕᓂᒃ ᐊᑐᖏᓕᖕᓂᒃᖢᑎᒃ ᐊᖏᓪ ᑐᑭᓯᓕᖕᓂᒃᖢᑎᒃ ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂᒃᖢᑎᒃ. ᑕᒪᓐᓇ ᐅᓇᓱᒋᐊᓂᒃᖢᑎᒃ ᐃᓅᓚᐅᑎᒃᖢᑎᒃ ᐊᑐᖏᓕᖕᓂᒃᖢᑎᒃ ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂᒃᖢᑎᒃ. ᑕᒪᓐᓇ ᐅᓇᓱᒋᐊᓂᒃᖢᑎᒃ ᐃᓅᓚᐅᑎᒃᖢᑎᒃ ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂᒃᖢᑎᒃ. ᓄᓇᓕᖕᓂᒃ ᐃᓅᓚᐅᑎᒃᖢᑎᒃ ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂᒃᖢᑎᒃ ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂᒃᖢᑎᒃ. ᐱᓕᕆᔨᖏᓪᓕᐅᓇᓂ

ᓄᓇᕗᑦᐃᓇᓱᒃᑐᖅ ᖃᐅᔨᓴᖅᑐᑦ ᐱᓕᕆᓇᖅᑐᒥᔪᒪᓂᖅ ᓇᒻᒥᓂᖅ ᓄᓇᕗᑦᐃᓇᓱᒃᑐᖅ ᐅᑭᐅᖅᑕᖅᑐᑦ. ᖃᐅᔨᓴᖅᓯᒪᓂᖅ ᐃᖅᑲᓇᐃᔨᖅ ᐃᓕᓴᕐᔪᐊᖅ ᐃᓕᓴᕐᕕᒃᑐᑦ ᐃᓕᓴᕐᕕᖏᓐᓄᑦ ᓄᓇᓕᒫᒥ ᐱᓕᕆᔨᒃᑐᖅᓯᒪᔪᖅ:

* ᐊᐅᓚᑎᕐᑎᓐᓂᖅ ᔫᕐᐃᑦ 10-ᓂᒃ ᐃᓐᓇᐅᑦ ᖃᓄᐃᖅᓯᒪᓂᖅ ᐃᑦᑕᕐᓂᓴᓂᒃ ᖁᓕᓂᔅᓴᒍᓐᓇᖅ ᐃᓕᓴᕐᕕᖏᓐᓄᑦ,
* ᓚᓕᓂᑎᕐᑎᓐᓂᖅ ᔫᕐᐃᑦ 8-ᒥᑦ ᐃᓕᓴᕐᕕᖏᓐᓄᒃ ᓴᒥᐅᓐ ᖁᔨᓴ ᐃᓕᓴᕐᕕᖏᐊᓚᓐᓂᖅ ᓄᓇᓕᒫᓂᖅᓯᒪᓂ ᐃᓕᓴᕐᕕᖏᓐᓄᑦᑐᖅᓯᒪᓂᖅ ᐃᓕᓴᕐᕕᖏᐊᑦ ᓯᓚᑕᓕᐅᑎᓂᒃ ᐃᓚᓄᐊᑦ ᓴᓇᖅᓯᐊᓚᖃᖅᓯᒪᓂᖅ,
* ᐱᓕᕆᖅᑕᐅᓐᓂᖅ ᔫᕐᐃᑦ 5 ᐊᒻᒪ 6 ᓄᓇᕗᑦᐃᓇᓱᒃᑐᓂᓴᓂᒃ ᐊᐅᓚᑦᓯᒪᓂᖅᓯᒪᓂᖅ (Renleng River) ᐃᓚᓄᐊᑦ ᖃᓄᐃᖅᓯᒪᓂᖅ
* ᐃᑲᔪᖅᑕᖅᓴᓂᖅ ᐃᓕᓴᕐᕕᖏᓐᓄᒃ ᐃᓕᓴᕐᕕᖏᓐᓄᖅᓯᒪᓂᖅ ᐃᖅᑲᐃᓐᓇᖅᓯᒪᓂᖅ ᓯᓚᑕᓕᐅᑎᓂᒃ ᑲᑎᒪᓂᖅᓯᒪᓂᖅ ᐃᓕᓴᕐᕕᖏᐊᓚᐅᔪᓂᒃ ᑲᑎᒪᓂᖅᓯᒪᓂᖅ ᐊᑐᐊᓕ ᓯᓚᑕᓕᐅᑎᓂᒃ ᐊᐅᓚᑦᓯᒪᓂᖅ ᐊᐅᓚᑦᓯᒪᓂᖅ ᐊᑐᐊᓕ ᓯᓚᑕᓕᐅᑎᓂᒃ ᐊᐅᓚᑦᓯᒪᓂᖅ
* ᓂᕈᐊᖓᑎᓐᓂᖅ ᓄᓇᕗᑦᐃᓇᓱᒃᑐᖅ ᓄᓇᕗᑦᐃᓇᓱᒃᑐᓂᓴᓂᒃ ᓴᓇᔨᐅᓯᒪᔪᖅ ᐃᓕᓴᕐᕕᖏᓐᓄᑦᑐᖅᓯᒪᓂ

ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓪᓗᓂᑦ, ᐃᓕᑦᑐᓴᓕᒫᑦ ᐱᓕᕆᔨᐅᓂᖅᓂᒃ ᑕᒪᐃᓐᓇᐅᑉ ᑐᓴᕐᕕᖏᓐᓂᖅᑐᑦ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᑲᑎᒪᔨᖏᑦ ᐊᑐᓚᓐᓂᖅᑐᑦ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ. ᒥᓵᑐ. ᐸᑉ ᓴᖅᑭᑦ ᐊᑐᒪᓗ ᐃᓅᓚᐃᑦ ᓴᐅᑎᔨᓴᕐᓂᖅᓂᒃ ᐃᓅᓂᓴᐃᖅᓯᓂᖅ, ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐅᖃᓕᒫᒃᑯᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᓄᓇᕗᑦ.

ᑲᑎᒪᔨᓴᕆᔨᐅᓂᒃᑯᑦ ᓄᓇᕗᑦ ᐅᒪᓴᕆᓚᓂᖅᓴᓕᒫᑦ ᐅᓴᐅᔨᓴᕆᔨᐃᓕᓴᖅᑎᑦᑕ ᑲᑎᒪᓕᕐᓂᖅ ᐅᑦᑎᐅᓴᖅᑎᑦᑕᓕᒫᑦ; ᓴᓇᔨᐃᓐᓇᖅᑐᑦ ᑲᑎᒪᔨᖏᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᑐᑦ ᐃᓂᓴᐃᖅᓯᒪᓂᖅ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᐅᓇᓱᒋᔭᐅᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ.

ᑕᒪᔭᕐᑕᐅᓴᖅ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ.

ᑕᒪᓐᓇᑕᐅᓴᖅ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᑕᒪᔭᕐᑕᐅᓴᖅ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ.

ᑕᒪᔭᕐᑕᐅᓴᖅ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ.

ᑕᒪᓐᓇᑕᐅᓴᖅ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ.

ᑕᒪᔭᕐᑕᐅᓴᖅ ᐃᑲᔪᖅᑐᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐱᓕᕆᔨᐊᓕᖅᑐᓕᒫᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓕᕆᔨᒃᑯᑦ ᐃᓕᓴᕐᕕᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓄᓇᕗᑦ ᑲᑎᒪᔨᖏᓐᓂᖅᓄᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ ᓴᓇᔨᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᐊᓗᑎᒃᓴᓂᖅ.

ᑕᒪᓐᓇ

ᐃᖃᓗᐃᑦ

* 130-ᓯᓗᐃᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᐃᑲᔪᖅᑕᕐᓯᐅᔪᑦ ᐃᖃᓗᐃᑦᑐᖅᑎᑦ 67-ᓂᑦ ᐱᓕᕆᔨᓂᑦ, ᒪᓕᒃᐃᓴᐃᓗᓐ ᐅᓇᓂᖅᓴᐅᓕᖅᓯᓗᓐᓄᑦ ᐊᑐᖅᑕᐅᓂᒃᑯ.
* ᐃᑲᔪᖅᓯᒃ ᐱᐅᓯᒪᖅᑕᐅᓂᖅᓴᖅ ᑲᑎᒪᔨᐃᓕᐅᔪᖅᓯᒃ ᓯᓚᑖᐃᓐᓇᓂᑦᑐᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ, ᖃᓄᕕᐅᔨᓕᕆᓂᓂᑦᑐᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᐱᓕᕆᓂᑦ ᐃᓕᓴᕐᓂᑦ; ᖃᐅᔨᓗ ᐃᓕᓴᕐᖃᑎᒌᓂᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᓄᓇᓕᐃᑦᓴᓂᑦ ᐃᓕᓴᕐᓂᑦᑐᖅᑎᑦ ᐊᑐᖅᑕᐅᓂᒃᑯ. ᓴᓇᔨᐅᔪᓕᖅᓯᒪᔪᑦ ᓯᓚᑖᓂᑦ/ ᓴᓇᑦ ᐱᓕᕆᓂ.
* ᐃᑲᔪᖅᑕᐅᓂᒃᑯᑦ ᖃᐅᔨᓴᖅᓯᐱᐅᑦ ᐃᖃᓗᐃᑦᑐᖅᑎᑦ, CBC ᐅᑲᓇᖅᓇᓂᑦ ᓇᓕᑕᐅᑎᖅᓂᑦ ᖃᐅᔨᓗ CBC ᐅᐊᖏᓇᖅᓯᒪᑦ ᑯᐱᕆᔪᓂᑦ ᓴᖅᑭᑦᓴᑎᑦᑎᓂᖅᓯᒪᑦᓯᒪᑦ ᐱᓇᓱᐊᕐᓯᒪᓕᒪᑦ ᓯᓗᓇᖃᑎᒌᓂᑦ ᐅᓇᓱᐊᕐᓂᖅᓴᐅᓂᒃ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᐅᓂᒃᑲᓂᖅ ᓇᓕᓕᒫᓂᑦᑐᖅᑎᑦ ᖃᐅᔨᓗ ᑯᐱᐃᓐᓇᓂᑦ ᖃᓄᐃᓕᐅᔪᓂᑦ ᐃᓕᓴᕐᓂᑦᑐᖅᑎᑦ ᖃᐅᔨᓴᖅᓯᒪᔪᑦ ᐱᓕᕆᓂᑦ ᐃᓕᓴᕐᓂᑦᑐᖅᑎᑦ ᐱᓕᕆᓂᑦ ᐃᓕᓴᕐᓂᑦᑐᖅᑎᑦ ᖃᐅᔨᓴᖅᓯᒪᔪ

ᐃᓕᖅᖃᓂᖅ; ᖃᑐᖓᓕᓚᓂᓐᖏᑦ;

ᐃᓚᖅᑯᓚᓂᓐᖏᑦ; ᐃᓚᖅᑯᓗᑐᖅᐃᑦ ᐅᐸᐱᓚᕆᐅᔪᑦ ᐊᕐᓚᓗ ᐱᖅᑯᓗᕆᐅᔪᓂᖅ; ᐊᖅᔪᓇᓐᓂᕐᓗᑦ ᐅᓪᓗᖅᓯᓚᓚᔪᑦ ᐊᕐᓚᓗ ᐊᖅᔪᓇᓗᑎᒋᔭᖅᑎᑦ; ᐅᒪᓚᔪᐃᐃᑦ ᓇᔨᓚᖅᓂᖅ; ᖃᐅᓚᓚᓂᖅ; ᐊᖅ ᓄᕿᑦ ᐊᕐᓚᓗ ᒥᕐᓴᕿᑎᐅᔪᑦ; ᖃᓄᓕᔪᓂᓂᖅ ᐃᓅᔪᓂᖅ; ᓴᓚᒥᑦ ᖃᐅᔨᓕᓂᖅᑎᑦ; ᐊᐅᑎᐅᑦ ᐊᕐᓚᓗ ᓴᓐᑦ ᖃᓄᓕᓂᖅᑎᑦ; ᐅᓪᓗᕆᐊᖅᓯᓂᖅ; ᓄᓇᕗᑦ ᐊᑎᖅᑯᓂᖅᑎᑦ; ᖃᓄᖅᑲᓇᑕᖅᑐᖅ ᐊᕐᓚᓗ ᓄᓇᕗᑦ ᐊᕐᓚᓗ ᐅᖅᑯᓴᕐᓂᖅᑎᑦ.

ᒪᑦᓂᐊ ᐊᐱᖅᑯᑎᑎᕐᓄᓂᓐ ᖃᓄᐁᓇᑎᑐᓴᖅᑎᑕᐅᖅᑕᖅᑐᑦᑐᖅᑐᑦ, ᑎᑎᕋᑕᐅᓪᓚᑎᓪᓗ ᐊᕐᓚᓗ ᓇᐁᓇᐃᑦᑕᐅᓪᓚᑎᓪᓗ. ᒪᑦᓂᐊ ᑐᓂᐅᕋᑕᐅᑎᓪᓚᓂ, ᒪᑦᓂᐊ ᐅᖅᑲᓪᓚᕆᐊᖅᓂ ᐊᕐᓚᓗ ᓄᑕᐅᖅᑐᑦᑐᖅ ᐅᖅᑲᐅᓂᐅᕐᓂᑦᑐᖅ ᐃᓇᓕᑐᖅᑐᑦᑐᖅ; ᒪᑦᓂᐊ ᑕᐃᒪ ᑲᑎᓪᓂᕆᑕᐅᓪᓚᓕᔪᓂᓪ ᐊᐱᓕᑐᖅᑕᐅᖅᑲᑕᓚᓪᓚᓂᖅ. ᒪᑦᓂᐊ ᑐᓂᐅᕋᑕᐅᓪᓚᓂᖅᑐᑦᑐᖅᑐᑦ ᐱᓕᕆᔨᑦᑎᐊᓂᖅ ᐊᐱᖅᑯᑎᑎᕐᓄᓂᓐ ᐊᕐᓚᓗ ᐃᓇᓂᖅᓯᒪᓂᖅ. ᐊᐱᖅᑯᑎᑎᕐᓄᓂᓐ ᐃᓚᖅᑯᓗᕆᐅᔪᑦ ᐱᓕᕆᔨᑦᑎᐊᓂᖅ

ᑐᓴᒃᑯᓴᐃᑦ/ᐃᓕᓐᓂᐅᕐᖏᓐᖓᑦ

ᓴᓇᑐᐃᓐᓇᕐᓂᖅ ᖃᐅᔨᓴᓴᖏᑦ ᐊᑭᓯᖅᑲᓱᒪᒍᑦ. ᓴᓕᖅᓴᕆᐊᒃ ᒥᓴᓂᖅ ᐃᓕᓴᒋᓴᕆᓪᓚᒍᑦ ᓴᓇᑐᐃᓐᓇᕐᓂᖅ ᒥᑭᔪᑎᐅᓂᖏᓴᓂᖅ ᐊᖏᓪᓚ ᐊᖏᓴᕆᑎᐅᓂᖏᓴᓂᖅ ᖃᐅᔨᓴᓴᓕᓂᖅ, ᐃᓕᓐᓂᖅᓯᒪᓂᖅ ᐊᕆᓴᓴᓇᖅᑐᓴᓂᖅ ᖃᐅᔨᓴᓴᓇᓱᓴᕆᓴᓕᓂᖅ. ᑕᐃᒪᐃᓱᒪᓕᖏᓴᓪᓚᒍᑦ; ᐊᒥᓱᓂᖅ ᓴᓕ ᐱᓴᓴᓱᒪᓕᖏᑦᑕ. ᐊᖏᓴᓴᓕᓚᓐᓇᖏᓴᓪᓚᒍᑦ, ᐃᓕᓐᓂᐅᕐᖏᓐᖓᑦ, ᐃᓕᓴᐃᓕᓂᖅ, ᒪᓕᒐᓚᓐᓂᕐᒥᓗ, ᓄᓇᕗᑦᑎᐊᖅ ᐊᖏᓴᓴᓇᖅᑐᓴᓂᖅ ᐃᓕᓐᓂᐅᕐᖏᓐᖓᑦ ᐊᖏᓴᓴᓇᓱᓴᕆᓴᓕ

ᑕᐃᒃᑯᐊᓕᒻᒥᑦ ᑲᓱᓇᑐᐃᓐᓇᖅᑐᓂᒃᑯᑦ ᖃᐅᔨᓴᖅᑐᓂᒃᑯᑦ ᑐᓴᕐᓯᒪᓂᖅ
ᑭᐅᓂᖅᑎᕐᓯᒪᔨᑦ ᐊᑐᑎᓂᖅᑐᑦ ᑐᓴᕐᓯᒪᓂᖅ ᐃᓕᓴᕐᓂᖅ
ᑐᑭᓯᐊᓂᒃᑯᑦ ᐊᑐᑎᓂᖅᑐᑦ ᐃᓕᓴᕐᓂᖅ ᐊᑐᑎᓂᖅᑐᑦ
ᐃᓕᓴᕐᓂᖅᑐ

ᓴᓪᓚᒥ. ᑕᐃᒪᐃᓪᓚᑕᐅᔪᓂᒃ ᐱᓕᓀᓂᑕᐅᖏᓐᓂᔪᓂᒃ ᐊᑎᓯᒥ. ᒥᔪᑐ ᔨᓐᓯ ᐱᓐᑐ, Sir John Franklin ᐃᓕᓐᓂᐊᕐᓚᐃᓐᓇᖅᑐᑦ ᐃᖅᓱᓇᐃᔨᖅᑕᒥᓴᓕᕆᔨᖅ ᔭᓄᓇᐃᓐᓯ ᒥ, ᑲᓐᔫ ᓴᓪᓕᑐᕐᓂᐊᖅᓱᓐᓇᖅᑐᑦ ᐃᓕᓐᓂᐊᕐᓚᐃᓐᓇᖅᑐᑦ ᐊᑎᓯᒥ ᑐᓴᕐᓂᐊᕐᓚᐃᓐᓇᖅᑐᑦ ᑐᓴᕐᓂᐊᕐᓚᐃᓐᓇᖅᑐᑦ ᐊᑎᓯᒥ ᐊᓂᓕᕆᔨᖅᑐᑦ ᐊᑎᓯᒥ ᐊᑎᓯᒥ ᐊᑎᓯᒥ

ᑎᑎᕋᖅᑕᐅᓪᓗᕆᓂᖅ, ᐅᖃᓕᒫᓐᓇᕐᓂᖅᑕᐅᓪᓗᕆᓂᖅ. ᑕᒪᓐᓇ ᐅᖃᓕᒫᓐᓇᕐᓂᖅᑕᐅᔪᑦ ᓱᑲᓪᓚᕆᓚᐅᕐᓴᓂᑦ ᑕᐃᒪᐃᓕᑐᖃᖅᓴᓂᑦ ᓴᓇᐸᑎᓂᐅᔭᕐᓗᑎᓂᑦ.

ᐱᓕᕆᔨᐅᕐᒥᔪᑦ ᓄᓇᑐᐃᓐᓇᖅᓴᓂᑦ ᖃᐅᔨᓴᖃᖅᑎᓕᕆᔨᓄᑦ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᑐᒃ ᓄᓇᑐᐃᓐᓇᖅᓴᓂᑦ ᒥᔅᓴᓂᑦ ᑕᓂᐅᒪᔪᓕᓐᓂᑦ. ᑕᒪᓐᓇ ᐊᖅᑭᑐᑕᐅᓱᒪᔪᑦ ᑕᓂᐅᒪᔪᓕᓐᓂᑦ ᑕᒪᓐᓇᕐᓂᐅᕐᒥᓂᑦ ᐊᒻᒪᓗ ᓄᓇᓕᖕᓂᐅᕐᓂᖅᓴᓂᑦ ᐃᓚᖓᑕᐅᓂᖅᓴᓂᑦ.

ᐃᑲᔪᖃᑎᒌᓱᒪᓂᖅᑐᑦ ᐃᓕᓴᐅᔪᖃᑦᑕᖅᓴᓂᑦ ᑕᒪᓐᓇ ᑐᓴᕐᓂᐊᕐᓗᒍ ᐱᓕᕆᔨᐅᕐᒥᔪᑦ ᐊᒻᒪᓗ ᓄᓇᑐᖃᖅᑐᓂᖅᓴᓂᑦ ᐱᔪᓐᓀᖅᑐᑦ.

ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᐃᓕᓴᐅᔪᖃᑦᑕᖅᓴᓂᑦ ᑭᒪᔭᓂᑦ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ

* ᐱᖁᓕᒪᓂᖅ ᐃᓕᓐᓂᐊᕐᓇᖅᑐᑎᓪᓗᒍ ᐱᓕᕆᔨᖅᓯᒪᓂᖅ ᑭᓇᐅᔭᖅᓯᓂᖅᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ ᑕᐃᔨᓂᐊ ᐱᖁᓕᒪᓂᖅ ᐃᓕᓐᓂᐊᕐᓇᖅᑐᑎᓪᓗᒍ ᓄᓇᑐᐃᓐᓇᖅᓴᓂᑦ ᖃᐅᔨᓴᖃᖅᑎᓕᕆᔨᓄᑦ ᑕᐃᔨᓂᐊᖅᑐᓂᖅᓴᓂᑦ ᑕᒪᓐᓇᕐᓂᐅᕐᒥᓂᑦ ᐊᑐᕐᓂᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ ᑕᓚᐃᒪ ᒥᔅᓴᓂᑦ.

* ᓄᓇᑐᐃᓐᓇᖅᓴᓂᑦ ᖃᐅᔨᓴᖃᖅᑎᓕᕆᔨᓄᑦ ᐱᓕᕆᐊᖑᓚᐅᖏᓐᓂᒃ ᐱᖁᓕᒪᓂᖅ ᓄᓇᑐᐃᓐᓇᖅᓴᓂᑦ ᖃᐅᔨᓴᖃᖅᑎᓕᕆᔨᓄᑦ ᒥᔅᓴᓂᑦ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑕᒪᓐᓇᕐᓂᐅᕐᒥᓂᑦ ᐊᑐᕐᓂᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ. ᑕᐃᔨᓂᐊ ᐅᑭᐅᖅᑕᖅᑐᑦ ᓄᓇᑐᐃᓐᓇᖅᓴᓂᑦ ᖃᐅᔨᓴᖃᖅᑎᓕᕆᔨᓄᑦ ᐱᓕᕆᐊᖑᓚᐅᖏᓐᓂᒃ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑕᒪᓐᓇᕐᓂᐅᕐᒥᓂᑦ ᐊᑐᕐᓂᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ ᐅᖃᓕᒫᓐᓇᕐᓂᖅᓴᓂᑦ ᐱᖁᓕᒪᓂᖅ, ᐃᓕᓐᓂᐊᕐᓇᖅᑐᑎᓪᓗᒍ ᖃᐅᔨᓴᖃᖅᑎᓕᕆᔨᓄᑦ ᑕᒪᓐᓇᕐᓂᐅᕐᒥᓂᑦ ᐊᑐᕐᓂᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ ᐱᓕᕆᐊᖑᓚᐅᖏᓐᓂᒃ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᑕᒪᓐᓇᕐᓂᐅᕐᒥᓂᑦ ᐊᑐᕐᓂᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ.

* ᑕᐃᔨᓂᐊᖅᑐᓂᖅ ᐱᓕᕆᐊᖑᓚᐅᖏᓐᓂᒃ ᐅᔨᓂᐊ ᐱᔭᕇᖃᖅᑐᓂᖅᓴᓂᑦ; ᐊᑦᑕᕐᓂᖅᑕᐅᓪᓗᒥᑦ ᐃᓕᓴᐅᔪᖃᑦᑕᖅᓴᓂᑦ ᐊᐅᓚᑦᓯᓂᖅ ᐊᓯᔾᔨᖅᑕᐅᓪᓗᒥᑦ (ᑭᓇᐅᔭᖅᓯᓂᖅᑕᐅᓱᒪᔪᑦᑕᖅᑐᑦ ᐃᓕᓐᓂᐊᕐᓇᖅᑐᑎᓪᓗᒍ ᐃᓕᓴᐅᔪᖃᑦᑕᖅᓴᓂᑦ ᑲᑎᕕᐊᓂᖅᓴᓂᑦ ᐃᓕᓴᐅᔪᖃᑦᑕᖅᓴᓂᑦ), ᓄᓇᕗᑦᑕᐅᔾᔨᖅᑕᐅᓪᓗᒥᑦ ᐅᓂᒃᑳᓕᕆᓂᖅᑐᑦ ᐱᓕᕆᐊᖑᓚᐅᖏᓐᓂᒃ ᑐᓴᐅᒪᔪᖅᑐᑎᓪᓗᒍ ᐃᓕᓴᐅᔪᖃᑦᑕᖅᓴᓂᑦ ᓄᓇᕗᒻᒥᐅᑎᓪᓗᒍ.

ᓄᓇᕗᑦ ᓴᓇᔨᓄᑦ ᐊᑐᓕᕆᓂᖅᓯᒪᔪᖅ ᐅᓂᒃᑳᓕᑕᐅᔪᓐᓇᖅ ᑐᓴᕐᓯᒪᓕᒃᑲᓇᑦ 1990-91-ᒥ.

ᓄᓪᓕᐊᔪᖅᑐᓕᕆᔨᒃᑯᑦ ᐱᓕᕆᔨᒃᑯᑦ

ᓴᓇᔨᓪᓚᕆᐊᓘᑉ ᖃᐅᔨᓴᖅᑎᑐᓂᓪᓗᒍ ᑕᒪᓐᓇ ᓄᓪᓕᐊᔪᖅᑐᓕᕆᓂᖅ, ᖃᐅᔨᓴᖅᑎᑐᓂᓪᓗᒍ ᑕᒪᓐᓇ ᐊᑐᓕᖁᑎᒋᔭᖅᑐᓂᖅ, ᑲᑎᒪᔨᓴᕐᓂᖓᓪᓚᒃ ᐃᓄᐃᑦ ᐃᓕᓴᕐᓂᖓᓪᓚᒃ ᑲᒪᒋᔭᖅᑐᓂᖅ. ᓄᓇᕗᒻᒥᐅᑦ ᓴᓇᖅᑐᒥᒃ ᑕᒪᓐᓇ ᐱᓕᕆᓂᖅ ᐃᓄᐃᑦ ᑲᑎᒪᔨᓴᕐᓂᖓᓪᓚᒃ ᑎᑭᓴᕐᓂᖓᓪᓚᒃ ᐊᑐᓕᖁᑎᒋᔭᖅᑐᓂᖅ

ᐱᓕᕆᓚᐅᖅᑕᑦ Treeline Trappings-ᒥᓂᓄᑦ ᖃᓚᓇᐃᓕᒥᑦ, ᑲᓇᑕᒥᑦ ᐊᑲᐅᓂᖅᓯᓄᑦ ᑲᑎᒪᔨᖏᑦᑐᖅ ᖃᐅᔨᓴᓕᐅᕙᓪᓕᐊᑦ ᐃᓚᖏᑦᑐᖅ ᖃᓄᐃᓕᓚᐅᕙᓪᓕᐊᓂᒥᓂᓄᑦ ᖃᓚᓇᐃᓕᒥᑦ; ᓄᓇᕗᑦᑐᓂᓄᑦ ᐱᓕᕆᔨᒪᔨᓂᖅ ᐃᓕᓴᐅᔪᓐᓇᖅᑐᑦ ᐃᓚᖏᑦᑐ

ᓇᒧᐃᑦ ᖃᐅᔨᓴᓕᒃ?

ᐱᓕᒪᓂᐅᔪᓂᒃ ᐃᑲᔪᖅᑎᑦᑕᐅᑎᓪᓗᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ ᐊᖏᖓᔪᓄᖅᓯᒪᔪᓂᒃ ᐅᑭᐅᖅᑕᖅᓯᒪᔪᑦ ᐃᓕᓴᐅᔪᓄᖅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ ᐅᖃᖅᑐᓂᔪᓂᒃᓴᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ ᖃᐅᔨᓴᓕᖅᑐᑦ ᐃᓕᓴᐅᔪᓄᖅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ. ᑕᒪᓐᓇ ᐅᖃᖅᑐᓂᔪᓂᒃ ᑐᓴᕐᕕᒃᓴᓕᖅᑐᑦ ᑕᒪᓐᓇ ᐅᖃᖅᑐᓂᔪᓂᒃ ᐊᐅᓚᑦᑎᓂᒃ ᐊᒻᒪᓗ ᓴᓇᓕᒃᓂᓂ ᐱᓕᕆᓂᒃ ᐊᒻᒪᓗ ᐃᓕᓴᐅᔪᓄᖅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ ᖃᐅᔨᓴᓕᖅᑐᑦ ᐃᓕᓴᐅᔪᓄᖅᓯᒪᔪᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᓂᒃ.

ᐃᑲᔪᖅᑎᑦᑕᐅᑎᓪᓗᓂᒃ ᐃᓱᒪᓂᐃᔨᖅᑎᑦᑎᓂᖅᑐᑦ ᑲᔪᓯᓂᐊᕐᓂᒃ ᓇᓕᒧᑦ ᐊᑐᓱᖅᑐᓂᒃ ᐱᓕᕆᔨᒪᓂᒃ ᐊᑐᓱᖅᑐᓂᒃ ᓄᓇᕗᑦ ᐱᓕᕆᔨᒪᓂᒃ ᐊᐅᓚᑦᑎᓂᒃ ᖃᐅᔨᓴᓕᖅᑐᑦ ᐱᓕᕆᔨᒪᓂᒃ ᐊᐅᓚᑦᑎᓂᒃ ᐃᓕᓴᐅᔪᓄᖅᓯᒪᔪ